directed against the walnut aphid, influence the frosted scale population. Their effects are not as easy to ascertain as are those resulting from the use of DDT. However, it appears that if they are more adverse to the parasites than they are to the scale, the development of serious infestations of the scale are favored.

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A NEW SPECIES OF SCHIZILLUS

(Coleoptera:Tenebrionidae)

FRANK H. PARKER

Globe, Arizona

Schizillus beali Parker, new species

Form oblong-oval; color dull black, opaque; integument variously punctate, most of the punctures bearing very fine, short pale hairs.

Front with broad, shallow, transverse impression; epistoma broadly convex and prominent medially; fronto-epistomal margin hemi-hexagonal; surface smooth, finely, sparsely punctate in apical half, more densely and coarsely along median margin of epistoma. Antennae slender, shining, dark reddish-brown, sparsely punctate, with short pubescence throughout, mixed with long fine pale hairs on segments 5 to 11. Third antennal segment not quite as long as the following two and one-half segments, fourth subequal

to fifth, both longer than the stouter, less parallel-sided sixth segment, following segments each a little shorter, tenth segment one-half longer than wide, eleventh narrower, oval in shape, about one-third longer than wide. Palpi ferrugineous. Mentum sparsely, coarsely punctate laterally and on apical half. *Pronotum* one-fifth broader than long; apex deeply, broadly emarginate, as wide as, or slightly wider than base, angles acute; sides sinuato-arcuate, arcuation most pronounced in apical half; basal angles rectangular. Base broadly, feebly emarginate. Marginal bead prominent only on base and apical angles. Disc impunctate, convex, with broad, shallow, transverse ante-basal impression, and scattered sub-obsolete impressions throughout. Propleurae vaguely rugose, rugae more pronounced on coxal convexities. *Elytra* about one-half longer than wide, sub-oval, widest at middle; base feebly arcuate, slightly wider than base of pronotum, the humeral angles prominent. Disc moderately convex, strongly at sides, abruptly declivous apically; surface sub-obsoletely striate, the second and fourth intervals more convex. Strial punctures moderate, coarser and more closely spaced than the fine, submuricate interstitial punctures, punctation becoming confused, larger and more strongly muricate laterally. Epipleurae feebly alutaceous, punctate in apical quarter. *Prosternum* obsoletely rugose, process sparsely punctate, the tip broadly, evenly rounded, concave and longitudinally carinate, the carina not attaining the apex. Mesosternum declivous anteriorly, broadly impressed at middle, sides subtuberculate, surface obsoletely rugose. Metasternum rugose, finely, sparsely punctate medially. *Abdomen* sparsely, finely punctured, fifth segment narrowly transversely sulcate near the truncate apex. *Legs* elongate, anterior pair very little stouter. Femora sparsely muricato-punctate, punctation about equal to that of abdomen. Anterior face of post-femora smooth, impunctate except at apices and immediately adjacent to tibial grooves. Tibiae more densely, coarsely muricato-punctate. Tarsi slender, plantar grooves open, setae ferrugineous. Terminal segments of all tarsi fringed with long, closely placed, ferrugineous setae.

Male.—Shorter, pronotal margins more broadly arcuate, abdomen less conxex, third and fourth segments almost impunctate.

Female.—More elongate, pronotal margins less arcuate, nearly straight in basal half; abdomen convex, segments equally puncate; elytra less abruptly declivous apically.

Length, 16.5–18 mm.; width, 8–8.3 mm.

Holotype female from MOENKOPI, COCONINO COUNTY, ARIZONA, May 19, 1954, collected by Rev. R. S. Beal, Jr., deposited in the collections California Academy of Sciences, Entomology No. 6125. Allotype male (in the writer's collection) with same data but taken at Coal Mine Canyon, near Moenkopi, Arizona.

This species is most closely allied to *S. nunenmacheri* Blaisdell, from which it differs in the less elongate third antennal segment, the less coarsely and evenly punctate apical half of the mentum, the rectangular basal pronotal angles, the well formed strial punctures

of the elytra, and the shorter, broader, carinate prosternal process. The relatively elongate third antennal segment will readily distinguish this species from *S. laticeps* Horn, *S. lomae* Blaisdell, and *S. convexus* Blaisdell, in which it is shorter than the following two combined. In *S. opacus* Casey, the pronotum is relatively much more transverse, punctate, and the legs are closely, strongly punctate. The relative lengths of the basal antennal segments are not mentioned in the original description of *S. opacus Casey*, which indicates that they do not differ radically from those of *S. laticeps* Horn, with which the species is compared.

The writer wishes to thank the California Academy of Sciences for loaning a series of *Schizillus laticeps* Horn, and Mr. Hugh B. Leech, for critically comparing the holotype of *S. beali* with the unique types of Dr. Blaisdells' species.

Schizillus nunenmacheri Blaisdell

Mr. Leech made the following noteworthy observations on the type of *S. nunenmacheri* Blaisdell: The antennal pubescence similar to that of *S. beali*. Third antennal segment exactly equal in length to the next three combined—not four, as stated by Dr. Blaisdell. Antennal segments four, five and six are subequal, and shorter and broader than in *beali*. The apical half of mentum more coarsely and evenly punctate. The basal angles of the pronotum slightly reflexed, less than rectangular, the marginal bead not interrupted medially. The elytra more elongate and narrower, the strial punctures virtually obsolete, the interstitial tubercles well developed, the general effect thus seriate, the intervening areas quite smooth. Prosternal process sulcate between the forecoxae, narrower and longer than in *beali*, with finer and more numerous punctures. Mesosternum more abruptly declivous anteriorly and the sides more strongly tuberculate. Punctation of the hind femora as in *S. beali*.